

Your response

Question	Your response
<p>Question 1: Are there other trends in the space sector (or the broader spectrum environment) that we should monitor and/or take account of in our strategy?</p>	<p>It is important to keep the space spectrum strategy aligned with other relevant UK strategies. For example, the National Space Strategy (2021) emphasizes that the UK is a leader in modern space regulation which includes radio and working with Ofcom and the ITU. The international space community is currently discussing responsible behaviours in space and norms. The UK led the discussions on UNGA Resolution 75/36 Reducing Space Threats Through Norms, Rules, and Principles of Responsible Behaviours which shows UK priorities for space security. Further, as counter-space capabilities include electronic (jamming and spoofing) capabilities it is important for Ofcom to continue this leadership in supporting space security. This is highly relevant now as recently Russia attempted to electronically interfere with Starlink satellites supporting Ukraine. Monitoring counterspace electronic capabilities should be considered. Additionally, UK satellites licensees should understand the importance of being responsible actors in space while also understanding the importance of space security aligns with ITU and Ofcom principles of non-interference.</p> <p>The UK has positioned itself as a leader and champion for the voluntary Long-Term Sustainability Guidelines (LTSG, UN doc A/74/20 Appendix II, p 50) that found consensus in 2018 at UN Committee on the Peaceful Uses of Outer Space (UNCOPUOS). The UK and UNOOSA signed an agreement in January 2021 to promote space sustainability. Additionally, there is on-going work at UNCOPUOS under the continued working group on long-term sustainability. Guideline A.4 Ensure the Equitable, Rational and Efficient Use of the Radio Frequency Spectrum and the Various Orbital Regions Used by Satellites. Therefore, it is important for Ofcom to know only monitor what is happening regarding the Long-Term Sustainability Guidelines but should also coordinate with other UK departments on implementation.</p>

	<p>As one of the key areas for the Ofcom Spectrum Strategy is Earth Observation, it would be important to follow the discussion and implementation of the Space2030 Agenda; Space as a Driver of Sustainable Development (UN doc A/RES/76/3). This goes together with the Space4SDGs initiative at the UN Office of Outer Space Affairs (UNOOSA) and as agenda items at UNCOPUOS.</p>
<p>Question 2: Do you agree with the broad areas we have prioritised for our work?</p>	<p>Overall, yes, these broad areas are important for the Space Spectrum Strategy.</p> <p>Communications should be prioritised given the rise of the use of satellite constellations and mega constellations in LEO. It is important to regulate these constellations and to implement ITU RR Res 35 milestone approach for frequency assignments in NGSO.</p> <p>Earth Observation should have more of a focus, however, because of the above-mentioned importance regarding Space4SDGs and the new Space2030 Agenda. Further, the UK and UNOOSA signed an agreement in December 2021 to address the information gap for space-related climate actions.</p> <p>Access to space for all is an important area for UNOOSA. This area can also tie with the Long-Term Sustainability Guidelines and other safety considerations. This area should consider exploration and use for astronomers and other actors in space. This area should also consider future space missions such as to cis-lunar, lunar, and Mars locations.</p>
<p>Question 3: Are there other issues and actions that are likely to be important over the next 2 – 4 years?</p>	<p>As missions are already in planning phase for the Moon and Mars, it is important to look further afield. This is especially important in situations where the radio spectrum will be used by astronomers and other actors at key locations on the Moon and Mars. As the UK is a signatory to the Artemis Accords, it is important to start thinking ahead to what radio issues and actions might be necessary for these celestial body missions. As regulations are typically trying to catch up with science and technology it is a good idea to start considerations sooner rather than later.</p>

<p>Question 4: Do you have any evidence on whether specific actions should be a high priority?</p>	<p>The issue Supporting Wireless Innovation: Spectrum for Space Pioneers and the accompanying action could be considered for high priority. This promotes entrants to the space market and supports smaller business and academia where more support may be required. It also promotes the international ideas of access to space for all and diversifying actors in space.</p> <p>The issue Inter-Satellite Links is important because it is already under consideration for WRC-23 and will continue to build on regulations regarding satellite constellations.</p> <p>The issue Space Use of Space is important because there is interest in the UK industry to track and mitigate space debris. This also supports the Space Debris Mitigation Guidelines (also implemented by the UK). Considering space debris and on-orbit servicing should be high priority as it also supports international efforts implemented by the UK such as the Long-Term Sustainability Guidelines and the Space Debris Mitigation Guidelines. This would also support the UK initiative to be a leader in space sustainability and safety. Encouraging responsible actors in space.</p>
<p>Question 5: Do you have any other issues you wish to comment on?</p>	<p>Not at this time</p>
<p>Question 6: Are there other issues and actions specifically relating to NGSO communication systems that are likely to be important over the next 2 – 4 years?</p>	<p>As was mentioned above, it is important to keep track of trends regarding satellite constellations and mega constellations. Having the ITU Res 35 milestone approach is important to implement. Continuing to engage with the ITU on agenda items relating to constellations as it moves toward WRC-23 is critical. Congestion of LEO is a serious issue and that includes the radio spectrum. Continuously updating the LEO governance framework through ITU and UNCOPUOS with input from the UK (Ofcom and other departments) keeps regulations up-to-date and harmonised internationally.</p>
<p>Question 7: Do you have any evidence on whether specific actions relating to NGSO communication systems should be a high priority?</p>	<p>Furthering on from the answer in question 6, continuing to update existing regulations for NGSO communications systems. Keeping track of trends in this area internationally and knowledge sharing implementation of</p>

	<p>regulations connects with the UK desire for leadership in space sustainability.</p> <p>Working on inter-satellite sharing (NGSO-NGSO, NGSO-GSO, etc) and how to handle interference is important.</p> <p>Improving the ITU framework as suggested would also keep up-to-date information on satellites, limit interference, and make actions transparent for space security concerns.</p>
Question 8: Do you have any other comments relating to NGSO systems?	<p>Overall, the UK licensing of satellites is well thought out. Any updates to support the diversifying actors using space whilst keeping in mind safety, sustainability, and security are critical to the spectrum regulation framework.</p>